M.S.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/364,308	07/30/1999	CAO THANH PHAN	Q55268	9268

7590   10/22/2002

SUGHRUE MION ZINN MACPEAK & SEAS PLLC
2100 PENNSYLVANIA AVENUE NW
SUITE 800
WASHINGTON, DC 200373702

EXAMINER
SHAH, CHIRAG G

ART UNIT	PAPER NUMBER
2664	

DATE MAILED: 10/22/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

TN

	Application No.	Applicant(s)
Office Action Summary	09/364,308	PHAN ET AL.
	Examiner	Art Unit
	Chirag G Shah	2664

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _30 July 1999_ .

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-7_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) _1,2 and 4-6_ is/are rejected.

7) ☒ Claim(s) _3 and 7_ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☒ All b) ☐ Some * c) ☐ None of:

      1. ☒ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)	4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) ☐ Notice of Informal Patent Application (PTO-152)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _2_ .	6) ☐ Other: _____ .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims 1 and 2 rejected under 35 U.S.C. 103(a) as being unpatentable over Ravishankar

(U.S. Patent No. 6,226,304) in view of Kawashima (U.S. Patent No. 5,894,588).

Referring to claims 1 and 2, Ravishankar teaches of improving voice quality on calls that

involve multiple voice compressed links using voice compression technology such as mobile-

to-mobile calls in cellular or mobile systems. Ravishankar discloses in figures 5 and 6 and

respective portions of the specification of a source and a destination node connected by a

communication link. Ravishankar also teaches it is possible to perform compression and

decompression steps on the information to be sent across E1 lines to achieve cost reduction.

Ravishankar fails to teach a method comprising at least two routing calculation steps for a given

number of compressions, a routing calculation step for a given number of compressions using

information obtained during a routing calculation step for a number of compressions less than

given number. Kawashima teaches of an apparatus and a method of transmitting data,

compressed by a loss-less data compression process, between memories, communication

devices (including computer terminals), processors, or a host computer and an external memory.

Kawashima discloses in columns 6-18 and figures 15 and *16 the predicted compression ratio*

calculating means 95 comprises a decision means 101 for determining the number of processing routines, a pre-compression data reading means 102 for reading the pre-compression data from the pre-compression data storage area by a data length indicated by the pre-compression data readout size A, a compressed data storing means 103 for reading compressed data outputted from the data compression circuit 67 and storing the compressed data into the compressed data storage area of the data RAM 64, a storage address calculating means 104 for calculating a storage address at which to store the compressed data in the compressed data storage area, a compression ratio calculating means 105 for calculating an actual compression ratio with respect to pre-compression data having a data length (hereinafter referred to as "A bytes") indicated by the pre-compression data readout size A, and a predicted compression ratio calculating means 106 for calculating a predicted compression ratio with respect to all the pre-compression data based on the actual compression ratio calculated by the compression ratio calculating means 105. Based on this specification from the reference, it is apparent that at least two routing calculations steps for a giving number of compression are performed. Thus, it is clear that routing calculation for pre-compression minimizes the cost function. Therefore, it would have been obvious to one skilled in the art to modify Ravishankar's invention to include the steps of routing calculation for a given number of compressions as taught by Kawashima in order to shorten the overall processing time and improve the overall system performance.

3. Claim 5 and 6 rejected under 35 U.S.C. 103(a) as being unpatentable over Ravishankar in view Kawashima of as applied to claims 1 and 2 above, and further in view of Regnier (U.S. Patent No. 5,930,348).

Referring to claims 5 and 6, Ravishankar in view of Kawashima teaches of network performing at least two routing calculation steps for a given number of compressions. Ravishankar in view of Kawashima fail to teach of network further comprising overflow links to an external network and wherein the method comprises at least two routing calculation steps for a given number of overflows, a routing calculation step for a number of overflows and a given number of compressions using information obtained during a routing calculation step for a number of overflows less than given number of overflows. Regnier, however, teaches of an intelligent telecommunication network comprising a plurality of switching units interconnected by links and connected to a central computer unit by a data communication system for dynamic routing of a call. Regnier discloses in columns 2-15 that the central computer or node continuously monitors the number of queries generated by overflowing calls for each link and retains the data and then compares each measured or calculated rate with a predetermined or a given threshold of overflow call rate and calculates for each link of every potential alternate route for call by subtracting from the current target overflow value for the particular link, the number of calls. Regnier also teaches that the (SCP/NP) Service Control Point/Network Processor continuously monitors the Network Busy messages to determine the number of overflows for each link. It is clear from this that the calculation step enables the number of overflows and a number of compression to be less than the given number of overflows and given number of compressions as claim. Thus, it is clear from the reference that in choosing a cost

function representative of the cost of overflows the routing calculation minimizes the cost function. Therefore, it would have been obvious to one skilled in the art to modify Ravishankar in view of Kawashima's invention to include the teaching of Regnier regarding calculation of overflow links in order to avoid call and link congestion due to network overflow.

4. Claim 4 rejected under 35 U.S.C. 103(a) as being unpatentable over Ravishankar in view of Kawashima as applied to claim1 and 2 above, and further in view of Lee (U.S. Patent No. 6,122,283).

Referring to claim 4, Ravishankar in view of Kawashima teaches of a routing calculation step for a given number of compressions. Ravishankar in view of Kawashima fail to teach of a routing calculation step for a given number of compressions uses the Dijkstra algorithm and verifies the number of compression when adding a node to the route. Lee teaches of a method for providing a lossless, compressed topology aggregation of a group of switching nodes and interconnected links. Lee discloses in columns 3-6 that the Dijkstra methodology is used to determine shortest paths from a given vertex (referred to as a root) to all other vertices. In principle, one could apply the Dijkstra methodology to each vertex as a root to produce the set of shortest paths between all pairs of vertices. The Dijkstra methodology is particularly well suited for distributed computation, wherein each border switching node is responsible for computing its own non-redundant shortest path tree. Thus, it is clear to use Dijkstra's methodology for a routing calculation step for a given number of compression since is suited for distributed computation. Therefore, it would have been obvious to one skilled in the art to modify Ravishankar in view of Kawashima's invention to include the teaching of being able to

apply Dijkstra methodology as taught by Lee in order to optimally analyze the number of

compression based on a proven methodology in the art.

Allowable Subject Matter

5.   Claims 3 and 7 objected to as being dependent upon a rejected base claim, but would be

allowable if rewritten in independent form including all of the limitations of the base claim and

any intervening claims.

Conclusion

Any response to this action should be mailed to:

> Commissioner of Patents and Trademarks
> Washington, D.C. 20231

Or faxed to:

> (703)305-3988, (for formal communications intended for entry)

Or:

> (703)305-3988 (for informal or draft communications, please label 'Proposed' or
> 'DRAFT')

Hand-delivered responses should be brought to Crystal Park II, 2021 Crystal
Drive, Arlington, VA., Sixth Floor (Receptionist).
Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Chirag G Shah whose telephone number is 703-305-5639. The

examiner can normally be reached on M-F 7:30 to 4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

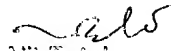supervisor, Wellington Chin can be reached on 301-305-4366. The fax phone numbers for the

organization where this application or proceeding is assigned are 703-872-9314 for regular

communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the receptionist whose telephone number is 703-305-3900.

cgs
October 17, 2002